

CLAIMS

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. A nitrous oxide transfer system for facilitating the transfer of gas from a large supply tank to smaller end-user tanks in a safe and efficient manner comprising, in combination:

a housing in a generally rectilinear configuration with a horizontal bottom wall and four vertical side walls including a front wall, a rear wall, an open side wall and a closed side wall, the housing also having a vertical separation wall forming a filling chamber on one side of the vertical separation wall and having a horizontal separation wall on the other side of the vertical separation wall, the horizontal separation wall forming a weighing chamber above and a cooling chamber below;

a quantity of brine in the filling chamber with an apertured horizontal plate at about the middle elevation of the filling chamber and with a smaller end-user tank supported on the plate for being filled, the level of brine being sufficient to immerse the lower portion of the smaller end-user tank, the smaller end-user tank having an upper end with a fitting and a gage with the size of the smaller end-user tank being sufficient to maintain the upper end above the brine and the housing;

an air conditioning system including a compressor unit located in the cooling chamber with an opening in the open side

wall adjacent to the compressor unit for repair purposes as may be needed and a louver in the front wall adjacent to the compressor unit for ventilation, the air conditioning system also including a refrigerant coil in the filling chamber beneath the plate and with connecting lines extending through the vertical separation wall whereby the air conditioning system will cool the smaller end-user tank there above during the filling thereof;

a scale located in the weighing chamber and supported upon the horizontal separation wall, the scale adapted to weigh the smaller end-user tanks prior to being filled and again after being filled; and

a large supply tank of nitrous oxide laterally displaced from the housing and having an upper end with fittings and a gage and a supply tube connecting the large supply tank with the smaller end-user tank within the housing for the transfer of nitrous oxide from the large supply tank to the smaller end-user tank during operation of the air conditioning system whereby transfer of nitrous oxide gas from the large supply tank to the smaller end-user tanks is accelerated by the cooling of the smaller end-user tanks.

2. A gas transfer system comprising:

a housing having a vertical separation wall forming a filling chamber on one side and having a horizontal separation

wall on the other side, the horizontal separation wall forming a cooling chamber there beneath;

a quantity of a liquid in the filling chamber with an apertured horizontal plate at about the middle elevation of the filling chamber and a smaller end-user tank on the plate, the level of liquid being sufficient to immerse the lower portion of a smaller end-user tank;

an air conditioning system including a compressor unit located in the cooling chamber and a refrigerant coil in the filling chamber beneath the plate;

a large supply tank of gas laterally displaced from the housing and a supply tube connecting the large supply tank with the smaller end-user tank within the housing.

3. The system as set forth in claim 2 and further including:

a scale supported upon the horizontal separation wall, the scale adapted to weigh the smaller end-user tanks prior to being filled and again after being filled.

4. The system as set forth in claim 2 wherein the fluid is brine.

5. The system as set forth in claim 2 wherein the gas is nitrous oxide.